Bulletin No.: PIT4667D
Date: Jul-2015

Service Bulletin

PRELIMINARY INFORMATION

Subject: **Diagnostic Tips - Diagnosing High Speed LAN Concerns**

Models: **2007-2014 Cadillac Escalade, ESV, EXT**
2007-2013 Chevrolet Avalanche, Silverado, Suburban, Tahoe
2014 Chevrolet Silverado HD, Suburban, Tahoe
2007-2013 GMC Sierra and Yukon Model
2014 GMC Sierra HD and Yukon Models
2008-2009 Hummer H2

This PI was superseded to update Model Year and Recommendation/Instructions. Please discard PIT4667C.

The following diagnosis might be helpful if the vehicle exhibits the symptom(s) described in this PI.

Condition/Concern

Note: As of the 2015 calendar year, the Data Bus Diagnostic Tool is available to assist in diagnosing issues with High Speed LAN. Refer to the Data Bus Diagnostic Tool User Guide, available in SI under Select and View a User Guide on the base screen. If after using the Data Bus Diagnostic Tool and the cause of the issue has not been found continue with the below information.

The data link connector (DLC) allows a scan tool to communicate with the high speed GMLAN serial data modules. The serial data is transmitted on 2 twisted wires that allow speed up to 500 Kb/s. The twisted pair is terminated with two 120-ohm resistors, one is internal to the engine control module (ECM) and the other at the opposite end of the high speed bus after the last module. If a communication signal is lost, the software application will set a no communication cod ("U" code) against the respective control module. This code is mapped on the Tech 2 screen as a code against the physical device. Note: a loss of serial data DTC does not represent a failure of the module that the code is set in. If you experience a current or intermittent loss of communication with a high speed LAN module, the following diagnostic tips may help you locate the source of the concern.

Recommendation/Instructions

Note: This document is only to provide additional tips when diagnosing high speed LAN concerns and is not meant to replace SI or be a diagnostic flow chart as each tip is its own test. Always, perform and refer to SI for the latest diagnostic information and procedures.

1. If the Tech 2 cannot communicate with any high speed LAN modules check for proper terminal drag at the DLC terminals 6 & 14 using test probe J-35616-14 or -2A. In many cases, DLC terminals 6 & 14 can become damaged from repeat probing and/or installing the scan tool.
2. Verify the high speed LAN circuit integrity by measuring the resistance across DLC terminals 6 & 14 with a DVOM and the battery(s) disconnected. A normal reading would be 60 ohms +/- 5 ohms. A reading something less than 60 ohms would indicate that high speed LAN bus is shorted together. If the reading is something higher than 60 ohms this indicates high resistance/open in the high speed LAN bus.
3. If the high speed LAN circuit integrity is good and the scan tool still will not communicate with any high speed LAN modules, there could be a module corrupting the high speed LAN bus. To try an isolate which module is causing the concern, try the following three different methods:

– Remove the battery feed fuse for each high speed LAN module one at a time, while monitoring the scan tool to see if communication returns with the other modules.

– Disconnect each module one at a time and bypass the module by using jumper wires to connect the high speed LAN bus back together. NOTE: Many high speed LAN modules use small .64 series terminals. ONLY use the connect test probe/terminal when bypassing the module. If the .64 series test probes/terminals are needed, please refer to the latest version of PIT5074 for the information

– Another method to isolate the high speed LAN modules is to separate the bus into two halves by disconnecting the C3 (X3) connector from the back of

the left I/P junction block. The following steps listed below will explain how to locate and disconnect the C3 (X3) connector. With the C3 (X3) connector removed, only the ECM, TCM, and BCM will be online with the scan tool. If you are able to communicate with these modules, the concern is on the side of the bus that is disconnected.

Note: This step will cause an open in the high speed LAN bus and if you measure the resistance across DLC terminals 6 & 14 it will be around 120 ohms. This is ok while performing this test.

Locate the left IP junction block, and remove the cover

Squeeze the locator tabs and remove junction block from holding bracket.

Locate the Green C3(X3) connector that is located on the back of the junction block.

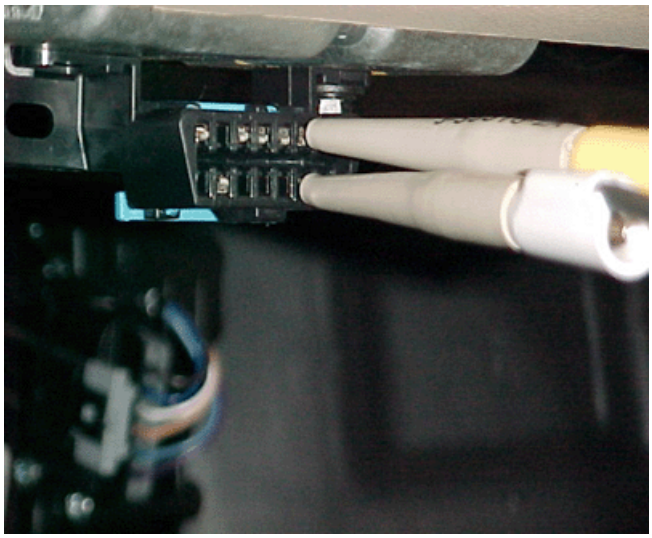
Remove the C3(X3) connector from the bottom of the IP fuse block, this will isolate the high speed LAN modules in two halves.

INTERMITTENT HIGH SPEED LAN CONCERNS

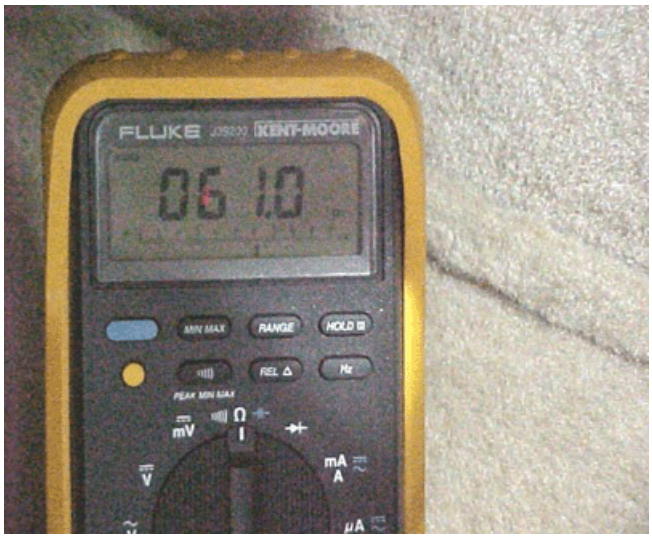
For intermittent issues try the following test:

If the high speed LAN communication concern is intermittent or you get a vehicle that returns with multiple "U "codes, use the following test to try and isolate the area of concern.

- Disconnect the vehicles battery(s).



- Locate the DLC connector and probe terminals 6 & 14 using the proper test terminals contained in terminal test kit J-35616-14 or -2A.



- Using a DVOM, measure the resistance across terminals 6 & 14 at the DLC connector. The resistance should be around 60 ohms and remain steady.
- Have an assistant wiggle test the wiring at each high speed LAN module while monitoring the DVOM reading looking for any type of fluctuation. If the reading varies while wiggle testing the wiring, check for proper terminal drag/terminal to wire crimp/ and circuit integrity at the effected module and repai as needed.

Note: Many high speed LAN modules use small .64 series terminals and are the main culprit for intermittent electrical concerns. When probing modules or inline connectors with .64 series terminals be sure the correct 64 test probe is being used. There are three easy ways to obtain these .64 series test terminals and refer to the latest version of PIT5074 for the information.

ADDITIONAL SI KEYWORDS:

U1814 U2100 U2099 U0100 U0101 U0102 U0121 U0140 U2100 U0073 ABS brake crank indicators IPC lamp light start

Please follow this diagnostic or repair process thoroughly and complete each step. If the condition exhibited is resolved without completing every step, the remaining steps do not need to be performed.
